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Kokkinen, Lauri

2019-03

Kokkinen , L , Kouvonen , A , Buscariolli , A , Koskinen , A , Varje , P & Väänänen , A 2019 , ' Human service work and long-term sickness absence due to mental disorders : a prospective study of gender-specific patterns in 1,466,100 employees ' , Annals of Epidemiology , vol. 31 , pp. 57-61.e1 . https://doi.org/10.1016/j.annepidem.2018.12.006

http://hdl.handle.net/10138/308776
https://doi.org/10.1016/j.annepidem.2018.12.006

Accepted Manuscript

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Kokkinen Lauri, PhD, Kouvonen Anne, PhD, Buscariolli André, MSc, Koskinen Aki, MSc, Varje Pekka, MSc, Väänänen Ari, PhD

PII: S1047-2797(18)30194-7

DOI: https://doi.org/10.1016/j.annepidem.2018.12.006

Reference: AEP 8537

To appear in: *Annals of Epidemiology*

Received Date: 26 March 2018

Revised Date: 15 December 2018

Accepted Date: 28 December 2018

Please cite this article as: Lauri K, Anne K, André B, Aki K, Pekka V, Ari V, Human service work and long-term sickness absence due to mental disorders: A prospective study of gender-specific patterns in 1 466 100 employees, *Annals of Epidemiology* (2019), doi: https://doi.org/10.1016/j.annepidem.2018.12.006.

Human service work and long-term sickness absence due to mental disorders: A prospective study of gender-specific patterns in 1 466 100 employees

Kokkinen Lauri (PhD),[1,2] Kouvonen Anne (PhD),[3,4,5] Buscariolli André (MSc),[3] Koskinen Aki (MSc),[1] Varje Pekka (MSc),[1] Väänänen Ari (PhD)[1,6]

[1]Finnish Institute of Occupational Health, Helsinki and Tampere, Finland

[2]Faculty of Social Sciences, Tampere University, Tampere, Finland

[3]Faculty of Social Sciences, University of Helsinki, Helsinki, Finland

[4]SWPS University of Social Sciences and Humanities in Wroclaw, Wroclaw, Poland

[5]Administrative Data Research Centre - Northern Ireland, Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom

[6]School of Social Policy, Sociology and Social Research, University of Kent, United Kingdom

*****Corresponding author: Dr Lauri Kokkinen, lauri.kokkinen@ttl.fi

Finnish Institute of Occupational Health

Uimalankatu 1, 33540 Tampere, Finland

Email: lauri.kokkinen@ttl.fi

Tel +358 43 825 1900

Fax +358 30 474 8615

Running title: Human service work and sickness absence due to mental disorders

Funding statement:

This work was supported by the Academy of Finland [grant number 267 172].

Word count: 2758

Abstract word count: 200

Number of tables: 5

Number of figures: 0

Abstract

Purpose

To investigate sickness absence due to mental disorders in human service occupations.

Methods

Participants (n=1,466,100) were randomly selected from two consecutive national nine-year cohorts from the Statistics Finland population database; each cohort represented a 33% sample of the Finnish population aged 25–54 years. These data were linked to diagnosis-specific records on receipt of sickness allowance, drawn from a national register maintained by the Social Insurance Institution of Finland, using personal identification numbers.

Results

Sociodemographic-adjusted hazard ratios (HRs) for sickness absence due to mental disorders in all human service occupations combined was 1.76 for men (95% confidence interval [CI], 1.70–1.84), and 1.36 for women (95% CI, 1.34–1.38) compared to men and women in all other occupations, respectively. Of the 15 specific human service occupations, compared to occupations from the same skill/education level without a significant human service component, medical doctors, psychologists, and service clerks were the only occupations with no increased hazard for either sex and the HRs were highest for male social care workers (HR 3.02; 95% CI, 2.67–3.41).

Conclusions

Most human service occupations had an increased risk of sickness absence due to mental disorders, and the increases in risks were especially high for men.

Key words: face-to-face interaction, psychiatric disorders, absence, disability, longitudinal study

INTRODUCTION

In human service work, an employee engages in face-to-face interaction with a client to increase, maintain, or protect the client's well-being (1,2). In such a relationship, the employee provides emotional, cognitive, and social resources to the client. Prolonged expenditure of a employee's resources is theorized to lead to adverse mental health consequences (3–6); indeed empirical studies have recently demonstrated an increased risk for mental disorders in those doing human service work (2,7–11).

According to Wharton (12), human service work is not a risk to mental health as such, but the particular conditions of interactive work may in varying degrees expose workers to emotional problems. Some studies suggest that the adverse mental health consequences of the prolonged expenditure of one's emotional, cognitive, and social resources are triggered and exacerbated by work and workplace-specific factors, such as role conflicts, exposure to threats and violence, and lack of social support (13–19). Others propose that also wider societal factors, such as strong moral obligation to do something regardless of available resources, the lack of a scientific base for the work, non-voluntary role of the clientele, and low control over outcomes (clientele's well-being), contribute to negative consequences (20–23).

Comparative studies including different types of human service work are needed and a recent paper by Rantonen and colleagues (24) was the first to address the relative risk of sickness absence due to mental disorders across different human service occupations. In their prospective study on public sector workers in Finland, they were able to show that social workers had a higher risk of long-term sickness absence due to mental disorders compared to preschool teachers and special education teachers but not psychologists.

In this paper, we build on the Rantonen study by including a much larger number of human service occupations and implementing a longer follow-up, thus better capturing the idea of prolonged expenditure of a human service employee's resources and the possible associated adverse mental health consequences in several different types of human service work. We also examine sex-specific patterns, as

the emotional labor associated with human service work may have adverse gender-specific impacts on mental health (25).

Our research questions are: 1) Are the adverse mental health effects of human service work distributed evenly among different kind of human service occupations? 2) Is there sex-specific variation in the effect of the human service component? In answering the research questions, our register-based study has several advantages, as the majority of previous studies on human services and mental disorders have used self-reported data (26), and only a few have applied a longitudinal design and relied on register data regarding risk of disability pension (9), hospitalization (2), or antidepressant medication use (25).

MATERIAL AND METHODS

Databases

The data were obtained from a population database maintained by Statistics Finland in which every Finnish resident is registered under a personal identification number. From these data, we selected a 33% random sample of the working-age population (18–64 years at baseline) in two consecutive cohorts (1996–2004, 2005–2013), which were analyzed together. The sample was formed by first stratifying the data according to gender and age, and then selecting every third employee into the sample. For the present study, we included individuals between 25 and 54 years old (n=1,466,100; 49.3% women; mean age 39.9) because younger individuals would have recently entered the occupation and those over 54 years old would be likely to retire due to old age during the follow-up. At the start of each cohort, the participants were categorized according to the 2001 International Standard Classification of Occupations (ISCO) codes. ISCO is an International Labour Organization classification structure for organizing jobs into defined set of groups according to the tasks and duties undertaken in the job. We identified 21 human service occupation categories based on the main purpose of the work (to increase, maintain, or protect the well-being of specific clients) and the face-to-face interaction used to achieve this. A similar approach has been used previously (2,25). Occupations

with small numbers of individuals were grouped together with broader occupational categories based on similar job tasks. The resulting 15 human service occupations were further merged into five larger human service categories: health professionals, education professionals, social workers, customer service workers, and miscellaneous (including police officers and psychologists). Information on participants' age, sex, educational background, marital status, income, county, and unemployment periods were collected from the population database.

Data on sickness absence due to mental disorders (ICD-10 diagnostic categories F00-F99) were obtained from the national register maintained by the Social Insurance Institution (SII) of Finland, and the participants were linked to sickness allowance records using personal identification numbers. All Finnish residents aged 16–67 are entitled to daily allowances of medically certified sick leave (27,28). After the first ten days of sick leave, compensation is paid for a maximum of one year. A medical certification is required for each absence, and the start and end dates are recorded in the register. We monitored the data over a nine-year period in each of the two cohorts. The first register follow-up on sickness absence due to mental disorders began on January 1, 1996 and ended on December 31, 2004 for the first cohort. The follow-up for the second cohort began on the next day. The end of the follow-up of the second cohort was December 31, 2013. We classified employees with a sickness absence lasting the minimum of eleven consecutive days as cases. Non-cases were those with no periods of sickness absence.

Statistical analysis

Cross tabulation was used to compare the sociodemographic characteristics of the participants. To compare the sickness absence between occupations, we applied Cox survival analysis. The follow-up began on January 1 at the beginning of each cohort and ended on the day the participant was granted sick leave compensation, became unemployed (i.e., unemployment was censored annually, if at least six unemployed months per year occurred), or died, whichever came first. For the rest of the participants, the follow-up period ended nine years after it began, on December 31. Sick leave due to mental diagnoses in the five broad

human service categories was first compared to that in all other occupations combined. Each of the 15 human service occupations was then compared to all other occupations from the same skill/education level (excluding human service occupations from the reference group). Skill similarity was determined by the first character of the 4-digit ISCO code, which defines broader occupational classes. This procedure was used to reduce the influence of other mental health risk factors related to occupational class position. The models were stratified by sex and adjusted for age, marital status, income, educational level, county of residence, and baseline unemployment. Age served as a continuous variable. Marital status categories: single, married, divorced, and widow(er); income categories: greater than 17,691 euros/year and less than 17,691 euros/year; educational categories: no university degree and university degree; place of residence categories: Uusimaa and other counties. The results are presented as hazard ratios (HRs) and their 95% confidence intervals (CIs). The analysis was performed using the SAS program package (V.9.4, SAS institute, Cary, North Carolina, USA).

RESULTS

Approximately 12% of the sample (N=1,466,100) was employed in human service occupations (n=182,685), with health professionals and educational professionals being the largest human service groups. Women were overrepresented in these occupations (83%), and female human service professionals had also experienced a sick leave period with a mental diagnosis more often than their male counterparts (14% and 10%, respectively). (Table 1)

Table 1 here.

A higher proportion of women had a university degree compared to men (43% and 32%, respectively), while men had higher income. Around 86% of the male human service employees earned more than national median (17,691 euros per year), compared to 72% of women. (Table 2)

Table 2 here.

Table 3 presents the HRs of long-term sickness absence due to mental disorders in the five broad categories of human service occupations compared to all other occupations. The adjusted HR in all human service professionals combined was 1.76 for men (95% CI, 1.70–1.84) and 1.36 for women (95% CI, 1.34–1.38). All five human service categories within both genders carried an elevated risk of sick leave with a mental diagnosis compared to all other occupations. The HRs were highest for social workers (2.86 male, 1.74 female), followed by health professionals (1.96 for men, 1.50 for women).

Table 3 here.

Table 4 presents the adjusted HRs of long-term sickness absence due to mental disorders in the 15 specific human service occupations compared to other occupations from the same skill/education level (see Supplemental Table 1 for the unadjusted results). Of the 15 human service occupations, 10 showed an elevated HR for both sexes. The HRs were highest for male social care workers (HR 3.02; 95% CI, 2.67–3.41), male social workers (HR 2.77; 95% CI, 2.26–3.40), male preschool teachers (HR 2.69; 95% CI, 1.91–3.79), male practical nurses (HR 2.58; 95% CI, 2.31–2.87), male nurses (HR 2.53; 95% CI, 2.21–2.90), male home care assistants (HR 2.23; 95% CI, 1.80–2.77), male childcare workers (HR 2.20; 95% CI, 1.61–3.01), and male special education teachers (HR 1.93; 95% CI, 1.52–2.44), followed by female home care assistants (HR 1.89; 95% CI, 1.80–1.98) and male travel services (HR 1.79; 95% CI, 1.45–2.21). Female secondary school teachers were the only human service employee group with a decreased HR (0.89; 95% CI, 0.83–0.95). Medical doctors, psychologists, and service clerks showed no statistically significant difference from other occupations for either sex. In addition, there was no increased hazard for female primary school teachers.

Table 4 here.

DISCUSSION

In this nationwide register-based longitudinal study, we found that most human service occupations had higher risk of long-term sickness absence due to mental disorders compared to all other occupations but the adverse mental health effects of human service work were not distributed evenly among different kind of human service occupations, and there was also sex-specific variation in the effect of the human service component.

All the five broad human service categories within both genders carried an elevated risk of sickness absence due to mental disorders. The finding is in line with previous studies on mental disorders among human service occupations, but these have mainly relied on self-reported data and cross-sectional designs or short follow-up periods (2,7–11). Moreover, in this study the magnitude of the risks varied greatly, being highest for social work (2.86 male, 1.74 female) and lowest for women in customer services (1.06) and men in education (1.40).

The variance was even greater when we compared the 15 specific human service occupations to other occupations from the same skill/education level. While the risk was more than three-fold for male social care workers and nearly two-fold for female home care assistants, we actually found that medical doctors, psychologists, and service clerks did not have an increased risk, in contrast with previous studies (2,24). In their register-based study of public sector workers in Finland, Rantonen and colleagues (24) found an equal risk of sickness absence due to mental disorders for psychologists and social workers (both male and female). In our study covering all sectors (public, private, third), male social workers had the highest risk of all studied groups, and the risk was also increased for female social workers, while psychologists showed no difference from other occupations for either sex. In a register-based study of affective and stress-related disorders leading to psychiatric treatment in Denmark, Wieclaw and colleagues (2) found a twofold

risk for male medical doctors (compared to all other occupations from all skill/education levels) and no increased risk for women, whereas our study showed no difference for medical doctors of either sex.

Medical doctors and psychologists did not demonstrate an increased risk in our study, even if their work is often related to the suffering of the clients and to treating victims of violence, or critically ill patients, which are all risk factors for employee mental health (6,29,30,31). However, medical doctors and psychologists also enjoy salutary factors provided by their strong professions, such as a robust scientific base for their work, strong union support (20,21), and high access to psychotropic medicines and other medical and therapeutic coping methods (32)

The increases in risks were generally higher for men so it seems that the effect of the human service component was stronger for male human service workers. This is in line with previous studies showing that men working in human service occupations differ in social position (33), have poorer job satisfaction (34), and a tendency to view their job as a “dead end job” (35) when compared to their female counterparts.

In addition to human service work and human service professions, our results are likely affected by occupational cultures and occupational selection. Some researchers have argued that being in a gender minority might affect mental health (36), and that subjection to feminine occupational culture might influence men’s help-seeking behaviors (35,37). These mechanisms seem plausible and would most affect the male childcare workers, male preschool teachers, and male nurses, who were among those showing the highest hazard ratios.

Recent studies on occupational selection suggest that personality is an important determinant of occupational choice (38), and that individuals who choose a gender-atypical occupation also tend to display gender-atypical personality traits (39). However, for occupational selection to affect our results, certain personality traits would have to be associated with both occupational choices and susceptibility to mental disorders. There are, to the best of our knowledge, no individual-level longitudinal studies on personality traits, occupational choices, and susceptibility to mental disorders. Occupational selection may well play a role in our results, but we have no way to estimate its magnitude.

Strengths and limitations

Our extensive data allowed the study of a large number of human service occupations and assessment of the risk of long-term sickness absence due to mental disorders in different human service occupations compared to all other occupations with the same skill/education level. By including only occupations from the same skill/education level in the reference group, we reduced the influence of other mental health risk factors related to occupational class position. Our data also allowed to investigate sex-specific patterns, discussing the possible effects of feminine/masculine occupational cultures. Moreover, the use of a long observation period allowed us to capture the idea of prolonged expenditure of a human service employee's resources and adverse mental health outcomes. To the best of our knowledge, no major changes occurred in Finland that would have affected data collection between the two cohorts used in our study, and our results were robust when using cohort as a covariate. Our data were based on a national sample, and there was practically no loss to follow-up. We focused on recorded long-term sickness absence, as it constitutes a reliable indicator of employee's health (40), and the use of register data reduced the risk of misclassification bias because a medical certificate was required for each sick leave (27,28). We used a wide category of mental disorders, as the definitions of many psychiatric illnesses lack specific biological and pathological markers, and are instead based on a convergence of symptoms and familial aggregation patterns, causing different labelling for similar conditions (41).

As we selected a random sample of the working-age population in two consecutive cohorts, the same person could be included in both cohorts. The statistical analyses could not be adjusted for to accommodate this, as we were not able to identify these persons. It should also be noted that the occupation of each individual was determined at the start of the nine-year follow-up period and possible occupational changes could not be traced. Another limitation of this study is its inability to take all possible confounding factors, such as personality, into account.

CONCLUSIONS

In this nationwide register-based longitudinal study, we found that human service employees are at increased risk of long-term sickness absence due to mental disorders. The increase in risks, however, differed between occupations and by sex. Compared to men in all other occupations with the same skill/education level, the risks were highest for male social care workers, followed by men in other social service, childcare, and nursing occupations. Medical doctors, psychologists, and service clerks were the only human service professions with no increased risk for either sex. Our results suggest that the human service component present in human service occupations increases the risk of mental ill-health. However, the characteristics of specific human service professions moderate this effect and the mental health of the employees is also likely to be influenced by other factors such as occupational culture and occupational selection.

FOOTNOTES

Contributors:

LK was involved in designing the research questions and drafting the manuscript for content, including analysis and interpretation of data. AKou, AB, PV and AV were involved in interpreting the data, revising the manuscript for content and critically reviewing drafts of the article. AKos was involved in analysis of data and revising the manuscript for content. All authors have approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Conflict of Interest:

Authors declare no conflicts of interest.

Ethics approval:

The study was approved by the Ethics Committee of the Finnish Institute of Occupational Health.

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Table 1. The number of male and female human service employees and the proportions of those with at least one long-term sickness absence due to mental disorders (LTSAMD) during the follow-up (n=1 466 100).

	Men	LTSAMD	Women	LTSAMD
	N	N (%)	N	N (%)
All employees	743 557	40 024 (5)	722 543	73 148 (10)
All human service	26 489	2 618 (10)	156 196	22 367(14)
Health professionals	9 360	1 018 (11)	72 435	11 483 (16)
Education professionals	7 668	614 (8)	45 927	5 730 (12)
Social workers	2 402	361 (15)	11 085	2 040 (18)
Customer services	3 035	243 (8)	21 518	2 407 (17)
Miscellaneous	4 024	382 (9)	5 231	707 (14)
Others	717 068	37 406 (5)	566 347	50 781 (9)

Table 2. Socio-demographic characteristics and long-term sickness absence due to mental disorders (LTSAMD) in male and female human service employees in men and women (n= 182 685).

	Men	LTSAMD	Women	LTSAMD
	N (%)	N (%)	N (%)	N (%)
Marital status				
Single	7 531 (28)	7 37 (10)	36 716 (24)	5 094 (14)
Married	16 665 (63)	1 513 (9)	99 145 (63)	13 188 (13)
Divorced	2 212 (8)	354 (16)	18 244 (11)	3 772 (21)
Widow/widower	81 (0.3)	14 (17)	2 091 (1)	313 (15)
Educational level				
No university degree	18 039 (68)	1 639 (9)	88 313 (57)	12 552 (14)
University degree	8 450 (32)	9 79 (12)	67 883 (43)	9 815 (14)
County				
Uusimaa	7 806 (29)	735 (9)	45 876 (29)	6 557 (14)
Other counties	18 683 (71)	1 883 (10)	110 320 (71)	15 810 (14)
Income (€)				
≥17691	22 867 (86)	2 332 (10)	111 737 (72)	17 212 (20)
<17691	3 622 (14)	286 (8)	44 459 (28)	5 155 (12)

Table 3. Hazard ratios (HR, 95% confidence intervals) for long-term sickness absence due to mental disorder in the five broad human service work categories, by sex.

	Men		*Women*	
	*HR (95% CI)**	*HR (95% CI)***	*HR (95% CI)**	*HR (95% CI)***
Non-human service	1.00	1.00	1.00	1.00
All human service	1.79 (1.72 to 1.87)	1.76 (1.70 to 1.84)	1.49 (1.46 to 1.51)	1.36 (1.34 to 1.38)
Health professionals	1.99 (1.87 to 2.12)	1.96 (1.84 to 2.08)	1.66 (1.62 to 1.69)	1.50 (1.47 to 1.53)
Education professionals	1.42 (1.31 to 1.54)	1.40 (1.29 to 1.52)	1.27 (1.24 to 1.31)	1.20 (1.16 to 1.23)
Social workers	2.91 (2.63 to 3.23)	2.86 (2.58 to 3.17)	1.96 (1.88 to 2.05)	1.74 (1.67 to 1.82)
Customer services	1.48 (1.30 to 1.68)	1.44 (1.27 to 1.64)	1.18 (1.13 to 1.23)	1.06 (1.02 to 1.11)
Miscellaneous	1.67 (1.51 to 1.85)	1.64 (1.48 to 1.82)	1.36 (1.26 to 1.46)	1.18 (1.09 to 1.27)

* Unadjusted

** Adjusted for age, marital status, educational level, county, income, and unemployment

Table 4. Adjusted hazard ratios (HR, 95% confidence intervals) of long-term sickness absence due to mental disorders in human service occupations compared to all other occupations at the same skill/education level, by sex.

		Men			Women		
Code	*Job title*	*N/Events*	*HR**	*95% CI*	*N/Events*	*HR**	*95% CI*
Health professionals							
2221	Medical doctors	3882/236	1.07	0.94 to 1.22	4618/525	1.03	0.94 to 1.12
3231^	Nurses	1554/224	2.53	2.21 to 2.90	28053/4349	1.30	1.25 to 1.35
5132	Practical nurses	3066/467	2.58	2.31 to 2.87	26600/4396	1.58	1.52 to 1.65
5133	Home care assistants	858/91	2.23	1.80 to 2.77	13164/2213	1.89	1.80 to 1.98
Education professionals							
2321	Sec. school teachers	4111/291	1.26	1.12 to 1.43	10460/1014	0.89	0.83 to 0.95
2331	Prim. school teachers	2965/249	1.52	1.33 to 1.73	7635/838	1.02	0.95 to 1.10
2332	Pre-school teachers	241/33	2.69	1.91 to 3.79	6495/865	1.35	1.26 to 1.45
2340	Special education teachers	633/70	1.93	1.52 to 2.44	2127/320	1.35	1.21 to 1.52
5131	Child-care workers	351/41	2.20	1.61 to 3.01	21337/3013	1.47	1.40 to 1.54
Social workers							
2446	Social workers	638/94	2.77	2.26 to 3.40	4355/772	1.74	1.62 to 1.88
3460	Social care workers^^	1764/267	3.02	2.67 to 3.41	6730/1268	1.76	1.66 to 1.86
Customer services							
42	Service clerks	2234/149	0.89	0.75 to 1.06	20431/2240	1.02	0.97 to 1.07

511	Travel services	801/94	1.79	1.45 to 2.21	1087/167	1.25	1.07 to 1.46
Miscellaneous							
2445	Psychologists^^^	563/41	1.31	0.96 to 1.78	2704/320	1.10	0.98 to 1.23
5162	Police officers	2828/271	1.50	1.30 to 1.71	400/67	1.40	1.10 to 1.78

^Includes both '3231: Nurses' and '3232: Midwives'

^^Includes both '3443: Social benefit administrators' and '3460: Social care workers'

^^^Includes both '2412: Counsellors' and '2445: Psychologists'

* Adjusted for age, marital status, educational level, county, income, and unemployment

APPENDIX

Supplemental Table S1. Crude hazard ratios (HR) of long-term sickness absence due to mental disorders in human service occupations.

		Men			Women		
Code	*Job title*	*N/Events*	*HR**	*95% CI*	*N/Events*	*HR**	*95% CI*
Health Professionals							
2221	Medical doctors	3882/236	1.09	0.96 to 1.25	4618/525	1.06	0.96 to 1.15
3231^	Nurses	1554/224	2.66	2.33 to 3.04	28053/4349	1.42	1.37 to 1.47
5132	Practical nurses	3066/467	2.68	2.42 to 2.98	26600/4396	1.72	1.66 to 1.79
5133	Home care assistants	858/91	2.19	1.77 to 2.70	13164/2213	1.86	1.78 to 1.96
Education professionals							
2321	Sec. school teachers	4111/291	1.31	1.16 to 1.47	10460/1014	0.92	0.86 to 0.98
2331	Prim. school teachers	2965/249	1.55	1.36 to 1.76	7635/838	1.03	0.96 to 1.11
2332	Preschool teachers	241/33	2.62	1.86 to 3.69	6495/865	1.28	1.19 to 1.38
2340	Special education teachers	633/70	2.10	1.65 to 2.65	2127/320	1.45	1.29 to 1.62
5131	Child-care workers	351/41	2.27	1.66 to 3.10	21337/3013	1.46	1.40 to 1.53
Social workers							
2446	Social workers	638/94	2.87	2.34 to 3.52	4355/772	1.76	1.64 to 1.90
3460	Social care workers^^	1764/267	3.00	2.65 to 3.39	6730/1268	1.82	1.71 to 1.93
Customer services							
42	Service clerks	2234/149	0.86	0.73 to 1.02	20431/2240	1.03	0.98 to 1.08

511	Travel services	801/94	2.02	1.64 to 2.48	1087/167	1.55	1.33 to 1.81

Miscellaneous

2445	Psychologists^^^	563/41	1.36	1.00 to 1.85	2704/320	1.12	1.00 to 1.26
5162	Police officers	2828/271	1.55	1.36 to 1.76	400/67	1.67	1.32 to 2.13

^Includes both '3231: Nurses' and '3232: Midwives'

^^Includes both '3443: Social benefit administrators' and '3460: Social care workers'

^^^Includes both '2412: Counsellors' and '2445: Psychologists'

- There is a human service component present in human service occupations.
- The human service component increases the risk of mental ill-health.
- The characteristics of specific human service occupations moderate this effect.
- There is also sex-specific variation in the effect of the human service component.